Computing Progression

	Computer Science	Information Technology	Embedded IT Skills	Digital Literacy	Online Safety
Y1	Identify and list the steps of a known task in order Understand that we control computers by giving them instructions Create a simple program e.g. to control a floor robot Understand what an algorithm is Create a simple algorithm Identify and explain patterns in groups of objects Debug an error in a simple algorithm or program e.g. for a floor robot Predict the outcome of a simple algorithm or program	Select media (e.g. images, video, sound) to present information on a topic Understand that you can edit and change digital content Select basic options to change the appearance of digital content Combine media with support to present information, e.g. text and images Apply edits to digital content to achieve a particular effect	Log on/off to a computer independently Use a mouse – left click / right clock / double click Use a keyboard – letter / number keys, space, backspace / delete Use a touchscreen – tap, swipe Open and close an application (iPad and PC) Open/reopen the internet on different devices Open / save a document Simple keyword search Understand that you can find information from a website Use a simple password when logging on, where relevant Understand that you can share digital content	Name a range of digital devices Explain technology as something that helps us Locate examples of technology – recognise that a range of devices contain computers, e.g washing machine, car Recognise and use a range of output devices, e.g. printer, speakers, monitor/screen Recognise and use a range of input devices e.g mouse, keyboard, touchscreen Recognise and use a range of input devices, e.g. mouse, keyboard, microphone, touchscreen	Understand that some information about themselves is special because its makes them unique Know that they should never give out personal details online Understand that you should not trust everyone you meet Identify when to ask a trusted adult for help Understand the importance of checking with an adult before participating in online activities Identify that comments that hurt peoples feelings online are cyber bullying Understand that passwords help protect computer files.

| Y2 | Understand that computers have no intelligence and we have to program them to do things

Understand that the order of instructions in an algorithm is important

Understand that instructions in an algorithm need to be clear and unambiguous

Evaluate the success of an algorithm or program

Identify and correct errors in a given algorithm or program (debugging)

Use the language if... then to describe the relationship between two actions | Plan out digital content

Present ideas and information by combining media independently

Talk about what makes digital content good or bad

Edit digital content to improve it | Using menus and key features in applications (recognise key familiar icons – save, open, play, record)

Know where to save and open work

Understand that you can use a search engine to find information using keyword searches

Understand that all devices, programs, websites, apps and games are designed and manufactured by real people to fulfil specific tasks | Identify examples and uses of computers

List and compare different types of information technology

Recognise that technology can be connected | Explain what it means to have a positive digital footprint

Explain Ways in which you can build a positive digital footprint |
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| Y3 | Understand that we can decompose a problem into smaller parts to make it simpler

Remix and change an existing program

Use repetition to make programs more efficient

Predict the outcome of a more complex program, e.g. in Scratch or Flowol

Use forever loops in a program | Edit existing media to make new content with an awareness of copyright

Evaluate existing and their own digital content

Edit digital content to improve it according to feedback | Open and save a file to a suitable folder

Use suitable file names when saving work

Use a search engine to find information using keyword searches

Use right-click, left-click and double-click appropriately on a mouse

Know how to copy text and images into a another document

Remember an individual password | Explain how Digital devices function

Identify input and output devices

Understand that computers are connected

Recognise the physical components of a network | Explain why it's important to keep personal information private online

Describe ways to keep personal information private online using safety tools and privacy settings

Describe how to find and ask for help if someone feels unsafe online

Describe ways to critically evaluate what we see on social media

Explain how social media can mislead or misrepresent reality |

					Identify different types of online scams people may experience including 'phishing'
Y4	Use diagrams to represent an algorithm, e.g. a flowchart Create a program using a range of events/inputs to control what happens Use selection in algorithms and programs, i.e. if... then... Decompose a problem and create a solution (sub-routine) for each part Use procedures in programs to create a sub-routine e.g. a procedure called 'square' in Logo	Collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365 Collect, organise and present information effectively using a range of media Use a range of tools to edit and enhance media for a particular purpose	Type using all fingers Understand you can organise files using folders Delete, move and copy files Use a search engine to find specific information	Describe how networks connect to other networks Recognise that the WWW is part of the internet	Demonstrate ways to build positive and healthy online relationships and friendships Describe state ties they can use to respond to hurtful online behaviour, in ways that keep them safe and healthy Identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online
Y5	Recognise that different solutions exist for the same problem Recognise variables in a program Use two-way selection, i.e. if... then... else... Create programs including repeat until loops Create simple variables, e.g. to keep score or remove lives in a game	Identify and use appropriate hardware and software to fulfil a specific task Remix and edit a range of existing and their own media to create content Recognise the audience when designing and creating digital content Understand the benefits of using technology to collaborate with others Are aware of a range of Internet services, e.g. email, VOIP (Voice Over Internet Protocol e.g.	Use the keyboard confidently to type at a suitable pace Use common keyboard shortcuts Create and use a strong password where appropriate Organise files effectively using folders	Understand that computers can be connected together to form systems Recognise the role of computer systems in our lives Recognising how information is transferred across the internet	Identity fake news, explain its purpose and describe how it impacts society Distinguish fact from opinion in online media content Explain what echo chambers & filter bubbles are Explain why its important to consume diverse media content Identify examples of emotional manipulation and explain why it is used Be bale to think critically about the content they view online

		Skype, FaceTime), World Wide Web, and what they do			
Y6	Predict what will happen in a program or algorithm (e.g. change of output) when the input changes (e.g. sensor, data or event) Understand the difference between and use if... then... and if... then...else... statements Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say "well done" Can design a physical computing system that uses sensors, e.g. using a flow chart	Select, combine and use Internet services to fulfil a purpose Identify success criteria for creating digital content for a given purpose and audience Evaluate their own content against success criteria and make improvements accordingly	Use more advanced searching techniques when using a search engine Understand that different devices can have different operating systems, and can give examples, e.g. Windows, iOS, Android Understand the main functions of an operating system Recognise common file types and extensions	Recognise that there are a number of search engines Explain how search results are selected and ranked Identify the opportunities that technology offers for communication	Distinguish between appropriate and inappropriate online behaviours (and between free and hate speech) Explain why someone might post hateful and intolerant content online Demonstrate they can respond effectively to inappropriate behaviours and content online including accessing help and support Explain how the internet can be an inspiring place and describe the various ways it can be used positively